

CLAIM AMENDMENTS

Claim Amendment Summary

Claims pending

- Before this Amendment: Claims 1-10 and 12-38.
- After this Amendment: Claims 20-38

Claims Canceled Without Prejudice: 1-19, 34 and 36

Amended claims: 28 and 33

New claims: None

Claims:

1. (Canceled)
2. (Canceled)
3. (Canceled)
4. (Canceled)
5. (Canceled)
6. (Canceled)
7. (Canceled)
8. (Canceled)
9. (Canceled)
10. (Canceled)
11. (Canceled)

12. (Canceled)

13. (Canceled)

14. (Canceled)

15. (Canceled)

16. (Canceled)

17. (Canceled)

18. (Canceled)

19. (Canceled)

20. (Previously Presented) A method comprising:

receiving a request to play compressed multimedia data in a reverse direction;

identifying compressed video data in the compressed multimedia data;

identifying compressed audio packets associated with the compressed video data;

identifying a most recent key frame previously received;

identifying a most recent audio key packet previously received;

decoding the most recent key frame;

decoding the most recent audio key packet;

identifying delta frames received subsequent to the most recent key frame;

identifying audio delta packets received subsequent to the most recent audio key packet;

decoding the identified delta frames;

decoding the identified audio delta packets;

reducing an amount of data associated with each pixel in each decoded delta frame
by:

deleting alternating rows of pixels in each decoded delta frame; and

deleting alternating pixels in non-deleted rows of pixels in each decoded delta
frame;

storing the reduced amount of data associated with each decoded delta frame;

discarding alternating audio delta packets;

deleting N of P delta frames, wherein N and P are integers and wherein N is
determined based on a combination of the amount of memory available for storing
decoded video frames and the frame rate desired during reverse playback; and

playing the remaining identified delta frames in the reverse direction and
concurrently playing the remaining decoded audio packets in reverse order.

21. (Original) A method as recited in claim 20 further comprising storing
the identified delta frames that were not deleted.

22. (Original) A method as recited in claim 20 further comprising playing
the decoded key frame after playing the remaining identified delta frames in the reverse
direction.

23. (Original) A method as recited in claim 20 wherein decoding the identified delta frames includes utilizing information contained in the most recent key frame.

24. (Original) A method as recited in claim 20 wherein decoding the identified delta frames includes utilizing information contained in the most recent key frame and information contained in any intervening delta frames.

25. (Previously Presented) A method as recited in claim 20 further comprising using a reconstructed video frame as a key frame to begin a decoding process, wherein:

the reconstructed video frame is created from a decoding state of a video decompression component;

the reconstructed video frame is independent from the frame decoded by the video decompression component, such that:

in an event that the frame decoded by the video decompression component was a key frame, the created reconstructed video frame will serve as the key frame;

in an event that the frame decoded by the video decompression component was a delta frame, the created reconstructed video frame will serve as the key frame; and

the reconstructed video frame has a format that is different from a decoded frame which is ready for display.

26. (Previously Presented) A method as recited in claim 25 further comprising storing the decoded video frames in video memory and storing the reconstructed video frames in system memory.

27. (Original) One or more computer-readable memories containing a computer program that is executable by a processor to perform the method recited in claim 20.

28. (Currently Amended) An apparatus for playing compressed multimedia data, the apparatus comprising:

a multimedia application facilitating identifying audio delta packets received subsequent to a most recent audio key packet by:

identifying compressed video data in the compressed multimedia data,

wherein the compressed video data comprises delta frames; and

identifying compressed audio packets associated with the compressed video data, wherein the compressed audio packets comprise:

audio key packets; and

audio delta key packets;

an audio decoder coupled to receive compressed audio data and decode the compressed audio data comprising the identified audio delta packets;

an audio data store coupled to the audio decoder;

a video decoder coupled to receive compressed video data and decode the compressed video data;

a video data store coupled to the video decoder, wherein the video data store stores P minus N delta frames, N and P are integers, and N is determined based on a combination of an amount of memory available for storing decoded video frames and a frame rate desired during reverse playback; and

a reverse playback controller coupled to the audio decoder and the video decoder, wherein the reverse playback controller generates decoded audio data and decoded video data in a reverse direction.

29. (Original) An apparatus as recited in claim 28 wherein the compressed video data includes at least one key frame and a plurality of delta frames associated with the key frame.

30. (Original) An apparatus as recited in claim 28 wherein the reverse playback controller discards alternating frames of received audio data.

31. (Previously Presented) An apparatus as recited in claim 28 wherein the video decoder deletes alternating frames of received video data.

32. (Original) An apparatus as recited in claim 28 wherein the reverse playback controller is further coupled to receive forward playback instructions and reverse playback instructions.

33. (Currently Amended) One or more computer-readable media having stored thereon a computer program that, when executed by one or more processors, causes the one or more processors to perform a method comprising:

~~receive~~ receiving a request to play compressed multimedia data in a reverse direction;

~~identify~~ identifying a most recent video key frame received in the compressed multimedia data;

~~decode~~ decoding the most recent video key frame;

~~identify~~ identifying video delta frames received after the most recent video key frame;

~~decode~~ decoding the identified video delta frames;

~~identify~~ identifying at least one compressed audio packet in the compressed multimedia data;

identifying a most recent audio key packet previously received;

~~decode~~ decoding the ~~compressed~~ most recent audio key packet;

identifying audio delta packets received subsequent to the most recent audio key packet;

decoding the identified audio delta packets;

deleting N of P delta frames, wherein N and P are integers and wherein N is determined based on a combination of the amount of memory available for storing decoded video frames and the frame rate desired during reverse playback; and
play playing the decoded video delta frames and the decoded audio packet in the reverse direction.

34. (Canceled)

35. (Original) One or more computer-readable media as recited in claim 33 wherein alternating video delta frames are deleted after decoding the alternating video delta frames.

36. (Canceled)

37. (Original) One or more computer-readable media as recited in claim 33 wherein the one or more processors further:

apply a lossless compression algorithm to each of the decoded video delta frames;
and
store each of the compressed video delta frames.

38. (Original) One or more computer-readable media as recited in claim 33 wherein the one or more processors further store the decoded video delta frames and the decoded audio packet.